

Six Months Experience

Berkeley Traffic Management Plan

Summary of Evaluation Report

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Traffic*

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About this Summary

This is a summary of an evaluation report on the Berkeley Traffic Management Plan. The evaluation has been prepared by a private consulting firm under contract to the City for this purpose.

The Berkeley Traffic Management Plan has been in effect since August, 1975. In approving the Plan, the City Council recognized its experimental nature and authorized implementation for a trial period only. That trial period terminates on May 31, 1976. At that time decisions about the Plan will be made -- abandon it completely, keep it as is, modify it, expand it, etc. This study is intended to provide the City Council, the Planning Commission and the citizens of Berkeley some facts about the effects of the Plan to assist them in determining the Plan's future.

The Traffic Management Plan has obviously had impacts which in a large variety of ways affect the quality of life in Berkeley. Many of these impacts involve individual perceptions and social value judgments. While these perceptual impacts are indeed important -- in fact they are central to evaluation of the Traffic Management Plan -- their evaluation is not the object of the consultant study. The consultant's report documents some objective measurements of the impacts of the Plan on traffic and community services. But it is extremely important that the contents of this summary not be construed as a comprehensive evaluation of the Traffic

Management Plan. Other effects of the Plan on the quality of life in Berkeley must be given full consideration -- such as creation of quiet residential neighborhoods where parents need no longer be constantly anxious about the safety of their children crossing the street, and the quality of the environment for walking, bicycling or just sitting on one's front stoop. Some of these factors are discussed in this report but very little empirical data of this nature is available at this time.

What is The Traffic Management Plan ?

The Traffic Management Plan is an experimental approach to dealing with Berkeley's extraordinarily complex traffic problem. The product of two years of citizens' meetings, public hearings, a consultant's study, and City Council consideration (culminating with approval on July 8, 1975), the Plan is an attempt to physically reinforce the street usage designations developed in the Master Plan Circulation Section.

Through the use of diverters, chokers, and STOP signs, the Plan is designed to superimpose on an existing gridiron street system something that is routinely planned into new suburban street systems: cul-de-sac streets, off-set intersections, narrowed and winding local streets, etc. In the end, the desire is to limit through traffic to major and collector streets and allow only local traffic on local streets.

The concept of concentrating through traffic on major and collector streets is not new to Berkeley. Citizen concerns for the increasing intrusiveness of auto traffic -- concerns which had been building for nearly a decade -- led to the adoption in 1968 of a new Circulation Section for Berkeley's Master Plan. Two important statements made in the Section were that (1) Berkeley circulation objectives would include reduction of the dependence on autos for transportation through the development of a balanced transportation system (bicycles, walking, transit, and

autos), and (2) major routes were, if possible, to be located around rather than through residential areas.

Since 1968 the City of Berkeley has been moving to implement the policies and objectives set out in the Circulation Section. The concept of using diverters to protect neighborhoods goes back to 1965 when landscaped installations were first made around San Pablo Park in conjunction with a neighborhood plan for that area. From 1964-65 to 1974, 28 diverters were installed in Berkeley neighborhoods. The Traffic Management Plan is an attempt to expand on these initial efforts in a cohesive, city-wide program.

The Traffic Management Plan as initially implemented is not intended to address all of Berkeley's transportation problems. Its current focus is reduction of traffic on local residential streets. Without development of improved public transit, the Plan can only alter traffic paths; it cannot be expected to encourage travelers to switch from autos to other modes. Unless this switch occurs, the traffic problems in some areas of Berkeley will not be solved. The City is now attempting to move forward with programs which will complement the Traffic Management Plan by reducing overall reliance on the automobile in Berkeley.

Summary and Findings

Implementation of the Traffic Management Plan has resulted in a number of changes affecting the quality of life in Berkeley. Following is a summary of some of the impacts of the Plan which are evaluated in this report.

- Changes in traffic volume have occurred generally as expected. Traffic on most local streets has decreased or remained unchanged. Traffic on some arterials and collector streets has increased. A few local streets -- generally short segments in the vicinity of diverted streets which formerly carried substantial traffic -- have suffered traffic increases. Several arterial and collector streets have benefitted from the Traffic Management Plan through traffic decreases. Generally these have been streets of residential character while most of the arterial streets experiencing increasing traffic are non-residential or mixed land-use in character.



Diverters have made formerly busy residential streets quiet and livable once more.

- Traffic accidents and traffic fatalities in the City are down over the period the Traffic Management Plan has been in effect though injury accidents are up slightly. Along with traffic volume, the Plan appears to shift many of the accidents-which formerly occurred in neighborhoods to the bounding arterial streets. Instances of vehicles striking traffic management devices have decreased as people have become familiar with the Plan. As familiarity increases and devices are better marked, this is likely to become even less a problem.
- There is considerable disobedience of all types of traffic management devices deployed in the City.

Violation of diverters, semi-diverters and closures occurs regularly and

- Traffic increases on the arterial and collector streets have not caused serious increases in congestion. Current capacity utilization ratios at key intersections are improved over those measured in 1970. Traffic operations improvements carried out in the intervening period have absorbed the impacts of Traffic Management Plan induced shifts as well as normal traffic growth.
- Overall travel times in Berkeley along the designated circulation system have not changed significantly from pre-Traffic Management Plan conditions. However, elimination of through-neighborhood shortcuts has caused increases of overall travel time on many trips. The seriousness of this change depends on whether one is travelling in an emergency situation or simply on a matter of personal convenience.

should perhaps be a subject of increased police enforcement. However, violation is not so frequent as to impair the effectiveness of these devices or to warrant development of more sophisticated provisions for emergency vehicle gaps.

The undercarriage preventer blocks which guard emergency vehicle openings against violators are generally successful in discouraging violations. However, they can be crossed by any high-slung vehicles, and many private cars if driven with care. Yet they have damaged a few police vehicles during high speed crossings. In the absence of increased enforcement, the blocks appear the best compromise between unprotected emergency openings and fully closed diverters.



Semi-diverters and diverter emergency gaps are effective in shifting most traffic although they can be violated.

Violation of circles (left turns on wrong side of circle) is frequent and involves a serious accident potential -- one reason why replacement of several circles is recommended.

Violation of STOP controls -- failure to stop -- is flagrant at many locations. Placement of STOP controls at intersections where there is perceptually little need to control right-of-way appears to have bred driver



Some circles work well. But wrong-way travel around circle like this



Can lead to hazardous conflicts like this

- STOP controls have had very limited effect in reducing traffic speed except in the immediate vicinity of the device itself. This is another reason for the removal recommendation.
- Modifications to many of the devices deployed in the initial Traffic Management Plan implementation could improve their visibility and functional qualities. Numerous modifications based upon field inspections are desirable if the Plan is continued in effect.
- Air quality in the Bay Area as a whole, citywide in Berkeley, or on individual Berkeley streets has not been meaningfully impacted by Traffic Management Plan implementation.
- Insufficient data is available to quantify changes in energy (gasoline) consumption resulting from Plan implementation. However, in all probability, gas consumption has increased for many trips still made in Berkeley.
- The Traffic Management Plan has had a range of effects on community services operating in Berkeley. Among these are:
 - Little discernible effect on AC Transit operations.
 - Refuse collection service routings have been revised with little quantified effect on operation efficiency. On at least one cul-de-sac street, Tanglewood, the collection truck must back out one block after collections.
 - Adjustments to Berkeley Unified School District bus routes have enabled continued fulfillment of school transportation requirements. However, such route adjustments are estimated to cost \$10,000 for the current school year.
 - Adjustments to the school crossing protection plan will be needed primarily due to changes in attendance because of the earthquake safety rehabilitation program. The Traffic Management Plan should be taken into account in such adjustments.
 - Vandalism on diverters and related devices cost some \$6,700 for repairs in the first six months of Plan implementation. Repeated vandalism of two devices accounted for nearly two-thirds of all vandalism.
- No catastrophic incidents resultant from Traffic Management interference with fire protection services have been reported but the Fire Department is concerned that the risk of serious incidents may be overlooked. A specific design criteria for the Traffic Management Plan has mobility of fire protection apparatus. Several new hydrant installations will be required if certain diverters are made permanent.
- Crime statistics and police response time data provide no substantiation that the Traffic Management Plan has adversely affected the overall quality of police services in Berkeley. However, individual incidents and perceptions of patrol officers indicate potential for problems. Increased manpower and resource allocation to the Patrol Division could offset potential adverse effects of the Plan and lead to better traffic enforcement.
- Numerous citizen communications regarding Traffic Management have been received regarding the Plan both before and after implementation. The balance of citizen view on Traffic Management, pro or con, cannot be judged on the basis of communications received. However, these communications have been of great value in pointing up issues of concern related to the Plan and suggesting specific device modifications.
- Less than half of the originally estimated cost of the Plan has been spent to date. Total costs to date have been about \$295,000. Of this about \$110,000 has been budgeted for traffic signal installations -- a cost which probably would have been incurred even if the Traffic Management Plan had never been attempted. Only about \$96,000 has been for installation of STOP signs, diverters, circles and associated signs and markings. The remaining costs have been spent for preparation of an environmental impact report, dissemination of information to the public, improvements to College Avenue, and evaluation of the Plan.



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The Plan's Future

As part of its actions authorizing implementation of the Traffic Management Plan, the City Council requested the Planning Commission to submit an evaluation of the Plan before the end of the current trial period (May 31, 1976). That evaluation is to contain recommendations as to its continuance, modification or substantial elimination. At the time of this mailing, the Planning Commission has not yet formulated such recommendations.

A major question before the Commission is whether, considering the consultant's eval-

uation report summarized herein, and the correspondence and testimony received by the Commission, the Traffic Management Plan is an effective method of achieving the City's transportation objectives. Subsidiary questions concern the extension of the current Plan, its modification and the need for further public hearings. It is expected that the Commission will recommend that a program of public hearings be undertaken in the fall of 1976 to obtain additional citizens' views on the subject of traffic management.

Where to Obtain The Report

Copies of the complete evaluation report are available for review at any branch of the Berkeley Public Library, the University of California Library, and the Berkeley Department of Transportation. Also, copies of the consultant's report may be purchased at the Berkeley Department of

Transportation, 2020 Milvia Street, between 8:00 AM and 5:00 PM on weekdays. The cost for the complete report is \$2.00 if it is picked up in person or \$4.00 if it is mailed to you. (Checks should be made payable to "City of Berkeley".)